

**APPARATUS, SYSTEMS AND RELATED METHODS FOR
DISPENSING AND/OR EVALUATING DRY POWDERS**

Abstract

Methods, systems, and computer program products flowably dispense meted amounts of dry powders using a flexing piezoelectric layer to transmit a vibratory signal to the dry powder to facilitate fluidic flow through a flow channel. The apparatus for dispensing dry powders can include: (a) an elongate flow channel having a width, length, and depth, the flow channel having axially spaced apart inlet and outlet ports, wherein the elongate flow channel is configured to extend in an angular orientation of between about 10-75 degrees relative to the axial direction of flow; (b) a flexible piezoelectric layer configured to overlie the flow channel so that, in operation, the piezoelectric layer is able to flex upwardly away from the lowermost portion of the underlying flow channel; and (c) a signal generator operatively associated with the piezoelectric layer, wherein, in operation, the signal generator is configured to output a signal for flexing the piezoelectric layer in the elongate flow channel.